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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,998	03/30/2006	Claus Froberg	65084.000017	9251
21967 7590 01/22/2009 HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109				
EXAMINER				
PAGE, BRENT T				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,998

Applicant(s)

FROHBERG, CLAUD

Examiner

BRENT PAGE

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-13, 15-26 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) 24- 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-13, 15-23 and 37-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The Reply filed 10/22/2008 is hereby acknowledged. The cancellation without prejudice of claims 2-3, 14, and 27-30, and 32- 33 is hereby acknowledged. The addition of new claims 35-42 is hereby acknowledged. Claims 1, 4-13, 15-26, 35-42 are pending and claims 1, 4-13, 15-23, and 35-42 examined on the merits herein.

Any objections or rejections of record in the office action mailed out 07/22/2008 not addressed below are considered hereby withdrawn in response to Applicants arguments when taken together with the amendments filed with the Reply filed on 10/22/2008.

Specification

The specification remains objected to for containing embedded hyperlinks. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. There are at least 7 occurrences in paragraphs 46-48. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Embedded hyperlinks may not be part of a published patent.

Drawings

The drawings remain objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: The amendment for brief description of drawings does not alter the original objection in that there appear to be different Tables listed as Tables 2-3 that do not correspond with Tables 2-3 in the drawings. Corrected drawing sheets in compliance

with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1, 13 and 18 are objected to because of the following informalities: The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

Claim Rejections - 35 USC § 112

Claims 1, 4-13, 15-23, remain rejected and claims 35-42 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a genetically modified plant cell comprising SEQ ID NO:3 or nucleic acid encoding SEQ ID NO:4, does not reasonably provide enablement for any modified plant cell with an increase in activity of any Class 3 branching enzyme, wherein the modification is a nucleic acid sequence with as little as 80% identity or 90% identity or 95% identity to SEQ ID NO:3, or a nucleic acid that encodes an amino acid with as little as 80% identity or 90% identity or 95% identity to SEQ ID NO:4, or any nucleic acid that hybridizes to SEQ ID NO:3 under stringent conditions. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The claims remain rejected for the reasons stated in the office action mailed out on 06/10/2008 as well as the reasons set forth below.

Applicant claims a plant phenotype having reduced activity of an endogenous class III branching enzyme in a plant transformed with a foreign exogenous class III starch branching enzyme coding sequence. Applicants specification and the prior art teaches that the pfam structural motives recited as structural limitations in Claim 1 are remarkably divergent in sequence identity and are best analyzed using statistical methods. However, the mechanisms of antisense and co-suppression that suppress or reduce activity of endogenous coding sequences rely upon a considerable or high

degree of sequence homology; and since the prior art and Applicants' specification has not provided for those sequences which have both conserved domains separated by the appropriate distance one of skill in the art would have to resort to undue trial and error experimentation to practice the invention for the full scope of the claims. Further, Applicants' listing of proteins having the instantly claimed conserved domains do not meet the limitations of Claim 1 because those proteins listed in Table 1 and Table 2 of the figures have nothing in common with each other, that is to say none of them have both of the claimed conserved domains of the SBEIII protein family.

Applicant's arguments filed 10/22/2008 have been fully considered but they are not persuasive.

Applicants urge primarily that the claims have been amended to limit the claims to class 3 branching enzymes with two particular domains.

This is not persuasive because the amendment of the claims contains an improper incorporation by reference. The attempt to incorporate subject matter into this application by reference to pfam accession numbers is ineffective because the accession numbers rely on viewing a database. The database may change over time as corrections and additions are made to these entries, and therefore a database may not be relied on for incorporation by reference. Incorporations by reference must contain a published document with a verifiable date in which the data relied on is not amended over time. See MPEP 608.01(p).

Further, Applicant is strongly urged to amend the claim to recite the claimed domain sequences using sequence identifiers that reference a sequence listing so that a complete search may be conducted.

Claims 1, 4-13, 15-23, remain rejected and claims 35-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims remain rejected for the reasons stated in the office action mailed out on 07/22/2008 as well as the reasons set forth below.

Applicant's arguments filed 10/22/2008 have been fully considered but they are not persuasive.

Applicants urge primarily that the claims have been amended to limit the claims to class 3 branching enzymes with two particular domains.

This is not persuasive because the amendment of the claims contains an improper incorporation by reference. The attempt to incorporate subject matter into this application by reference to pfam accession numbers is ineffective because the accession numbers rely on viewing a database. The database may change over time as corrections and additions are made to these entries, and therefore a database may not be relied on for incorporation by reference. Incorporations by reference must contain a published document with a verifiable date in which the data relied on is not

amended over time. Moreover, Applicant has not provided a conserved sequence encompassing both of the claimed conserved domains other than SEQ ID NO: 4 and the specification does not provide for a reference sequence either.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4-13, 15-23, and 37-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 13 and 18 all recite "enzyme has an iso-amylase domain (Pfam acc.: Pf02922) and an alpha-amylase domain (Pfam acc: Pf00128)".

It is unclear whether the recited accessions in parentheses are intended to be claim limitations or merely examples. For the recited accession numbers to be considered as claim limitations, the parentheses must be removed. New Matter must be avoided.

It is also unclear what limitation is being incorporated by the accession numbers. In addition to being an improper incorporation by reference as discussed above, it also is unclear what sequences consist of the stated domains at the time of filing due to ability of the database to be changed over time. Therefore the metes and bounds of the limitation of the claim are unclear.

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **BRENT PAGE** whose telephone number is (571)272-5914. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brent T Page
/Russell Kallis/

Primary Examiner, Art Unit 1638